7 **DE Admin Code** 1138
Section 16

Asphalt Processing and Asphalt Roof Products Manufacturing Standard

Public Workshops

August 9, 2010

- **Handouts**
- **Key Definitions**
- **Acronyms**

Clean Air Act Amendments of 1990

- Congress identified 189 Hazardous Air Pollutants or HAPs
- Congress directed the EPA
  - To identify emission sources of those 189 HAPs and
  - To issue regulations to reduce HAPs emissions from those sources

Clean Air Act Amendments of 1990

- Congress directed the EPA to
  - Begin with those industrial facilities that typically have large HAPs emissions (major sources)

  - Only later, move on to those facilities that typically have smaller HAPs emissions (area sources)

Clean Air Act Amendments of 1990

- EPA activities on major sources
  - 1992 - EPA published its initial listing of predominately major source categories
  - 1993 – 2004 - EPA issued over 100 rules addressing HAPs emissions from a wide variety of major sources, *including 40 CFR Part 63 Subpart LLLLL*
  - 2005 and on - EPA continues issuing major source rules, but most resources have moved on to area sources rules

Clean Air Act Amendments of 1990

EPA's Area Source Air Toxics Program

As directed by Congress in 1990

EPA's Area Source Air Toxics Program

- **Congress** required EPA to
  - Identify 30+ **HAPs** that present the greatest threat to public health

  - Identify types of sources that emit 90% of these 30+ **HAPs**
  - Issue regulations to reduce adverse health effects due to the emission of HAPs from these small facilities

EPA's Area Source Air Toxics Program

- EPA activities on area sources
  - 1999 - EPA published its listing of 33 HAPs having the greatest health impact (*in handouts*)
  - By 2002 - EPA had identified 60+ area source categories (*in handouts*)
  - 2006 - EPA began to focus more resources on these area sources

33 HAPs
&
Area Source Categories

Mercury compounds
Dichloromethane
Nickel compounds
Polychlorinated biphenyls (PCBs)
Polycyclic organic matter (POM)
Quinoline
2,3,7,8-tetrachlorodibenzo-p-dioxin
1,1,2,2-tetrachloroethane
Perchloroethylene
Trichloroethylene
Vinyl chloride

EPA's Area Source Air Toxics Program

- On December 2, 2009, EPA issued another area source standard
  - Asphalt Processing and Asphalt Roofing Manufacture at Area Sources
  - 40 CFR Part 63 Subpart AAAAAAA (Sub 7As)
- Federal adoptions of Area Source Standards lead to internal Departmental review

Typical Departmental Review

- Review of Federal Area Source Standards
  - Are there any Delaware sources?
  - How do the Federal requirements compare to existing Delaware air regulations?
  - Do the Federal requirements adequately meet the needs of the public, the regulated community, and the Department?
  - Are additional communications and outreach needed?

Results of Departmental Review of Sub 7As

- There is a Delaware source
- There are no comparable regulatory requirements in Delaware's Air Quality regulations
- There is no apparent outreach or education being provided on the Sub 7As
- The Department concluded there was a need to adopt Sub 7As under the Division of Air Quality's Area Source Air Toxics program

Which Brings

Us to

Tonight's

Public Workshop

Workshop Objectives

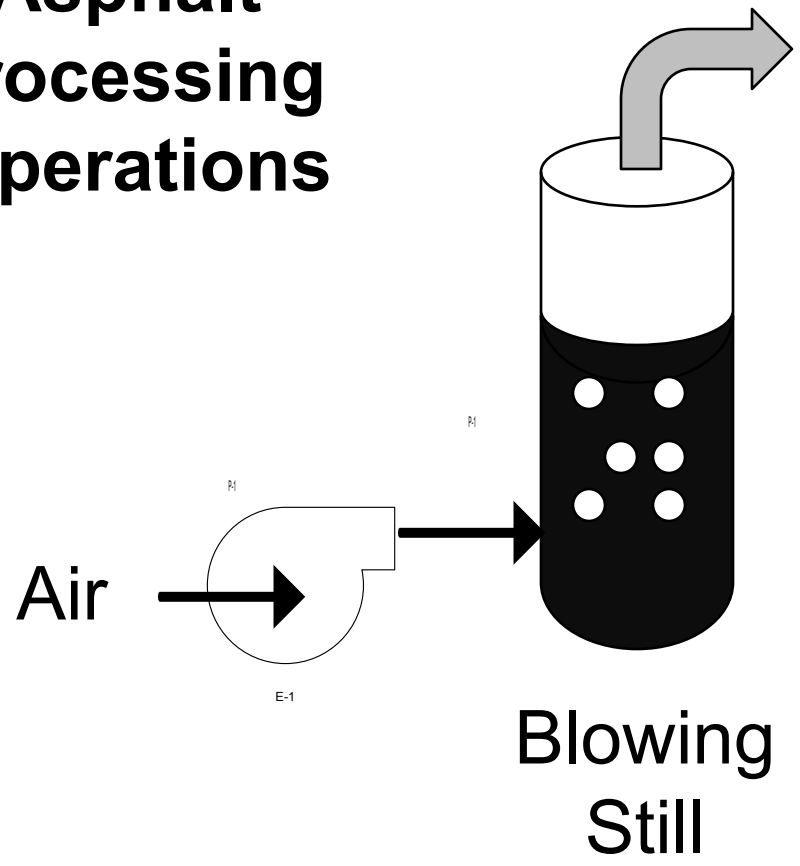
During the workshop, we want to address these key questions - - -

- Who is subject? Who is exempt?
- What are the emission limitations?
- What are the compliance options?
- What are the other O & M requirements?
- How do sources demonstrate compliance?
- What are the monitoring requirements?
- What are the paperwork requirements?
- When must a facility be in compliance?
- What are the permitting requirements?

- **Who is subject to Section 16? (i.e. who is an affected sources)**

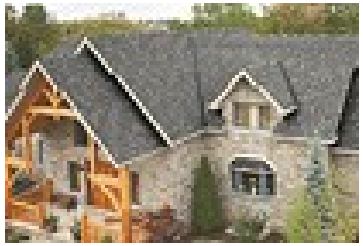
Who is subject to Section 16?

Asphalt Processing Operations



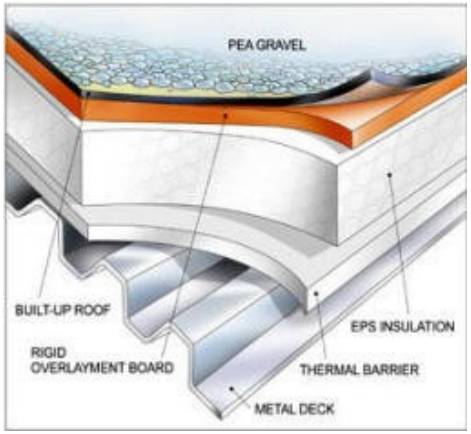
Who is subject to Section 16?

Asphalt Roofing Products Manufacturing Operations



- **Who is exempt from Section 16?**

Who is exempt from Section 16?



Built-Up Roofing Installations

Hot-mix Asphalt Plants

- **What are the emission limitations?**

What are the emission limitations?

Asphalt Processing Operations

	Lbs/Ton Asphalt Charged		
	PAH		**PM**
Blowing Stills	0.003	Or	1.2

PAH – Polycyclic Aromatic Hydrocarbons
PM – Particulate Matter

What are the emission limitations?

Asphalt Roofing Products Manufacturing

	Lbs/Ton Roofing Product Manufactured		
	PAH		**PM**
Coaters	0.0002	Or	0.06
Saturators	0.0007	Or	0.30
Saturator/Coater	0.0009	Or	0.36

PAH – Polycyclic Aromatic Hydrocarbons
PM – Particulate Matter

- **What are the compliance options?**

What are the compliance options?

- Pre-approved control technologies
  - Thermal Oxidizers

- Pre-approved monitoring strategy
  - Combustion zone temperature

What are the compliance options?

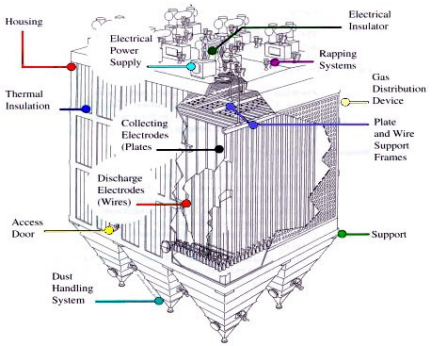
- Pre-approved control technologies
  - High efficiency air filter or fiber bed filter

- Pre-approved monitoring strategies
  - Inlet temperature and pressure drop
  - Leak detection system

What are the compliance options?

- Pre-approved control technologies
  - Electrostatic precipitator

- Pre-approved monitoring strategies
  - Voltage
  - Instrumentation with alarm



What are the compliance options?

- Other control or monitoring options
  - Sources may petition EPA to use other control technologies under General Provisions - 63.6(g)
  - Sources may petition EPA to use other monitoring strategies under General Provisions - 63.8(f)
  - Use of the alternatives is not permitted until EPA's approval has been received

- **How do sources demonstrate compliance ?**
  - **Initial demonstration**
  - **Continuous or ongoing demonstration**

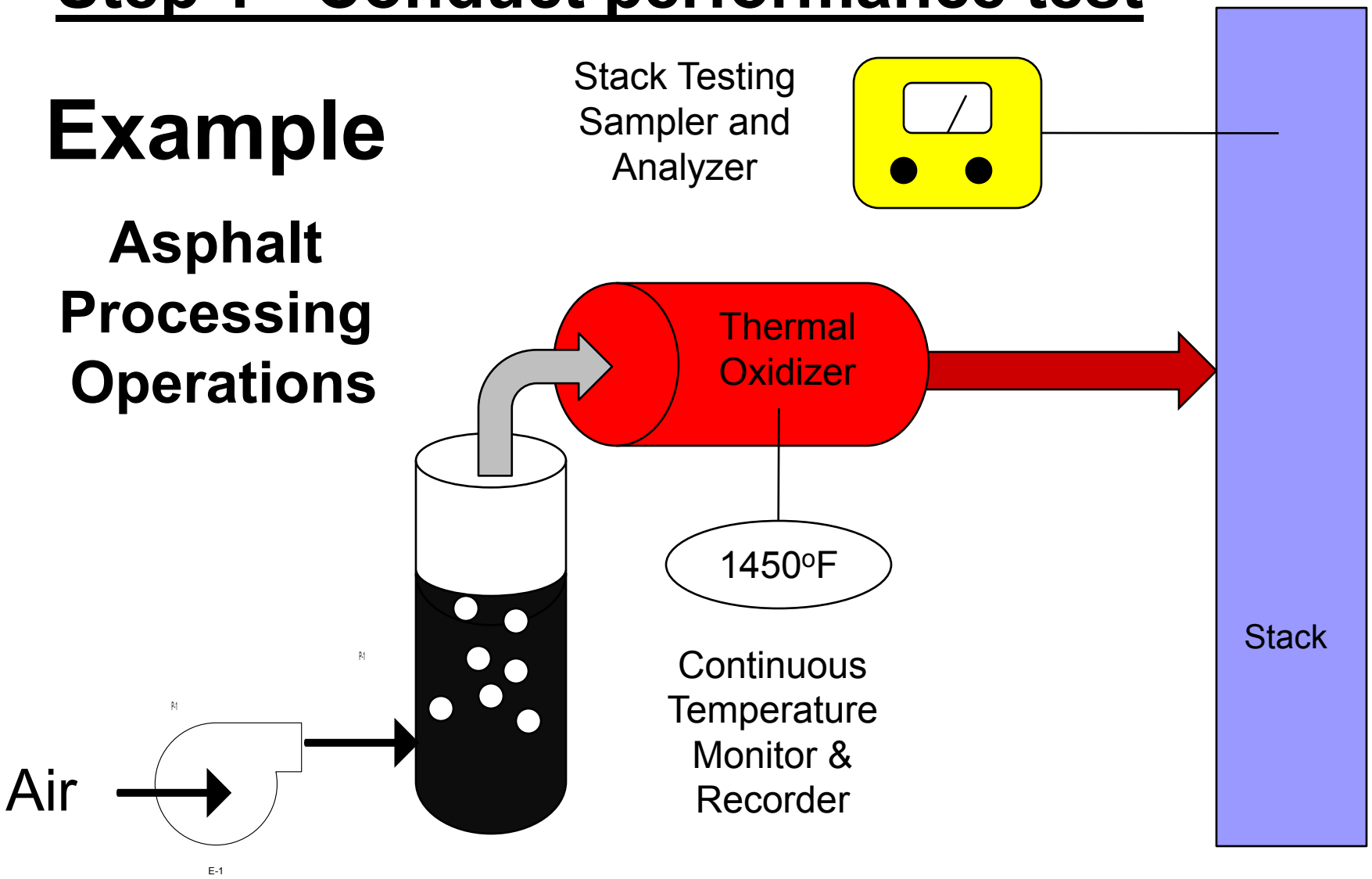
How to demonstrate initial compliance

- **Step 1 -** Conduct performance test
  - Operate the process at rate that would generate greatest emissions
  - Measure and record appropriate "operating parameter(s)" value or ranges of values
  - Measure and calculate actual PAH or PM emission rates

Step 1 - Conduct performance test

Example

Asphalt Processing Operations

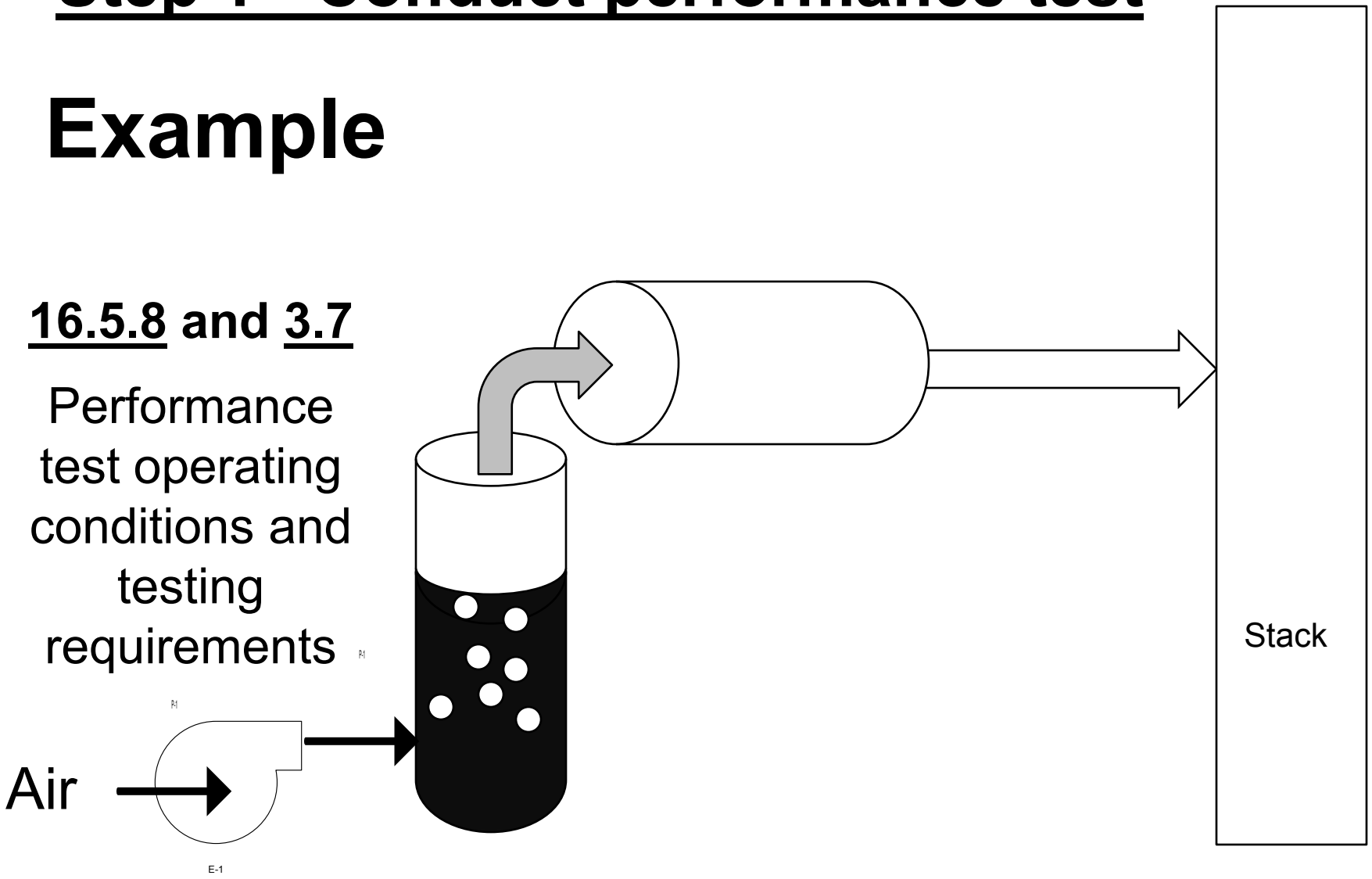


Step 1 - Conduct performance test

Example

16.5.8 and 3.7

Performance test operating conditions and testing requirements



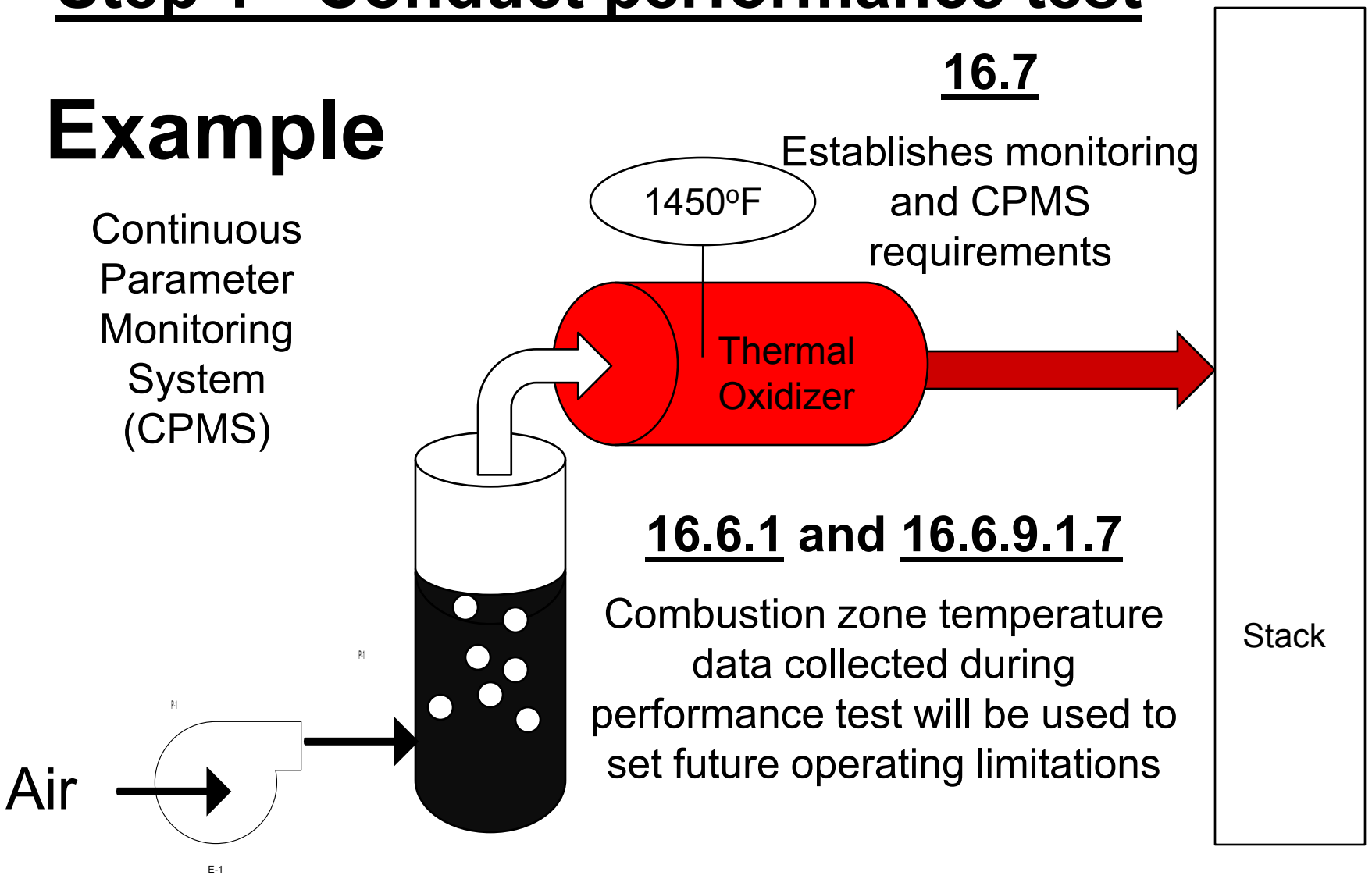
Step 1 - Conduct performance test

Example

Continuous Parameter Monitoring System (CPMS)

16.7

Establishes monitoring and CPMS requirements

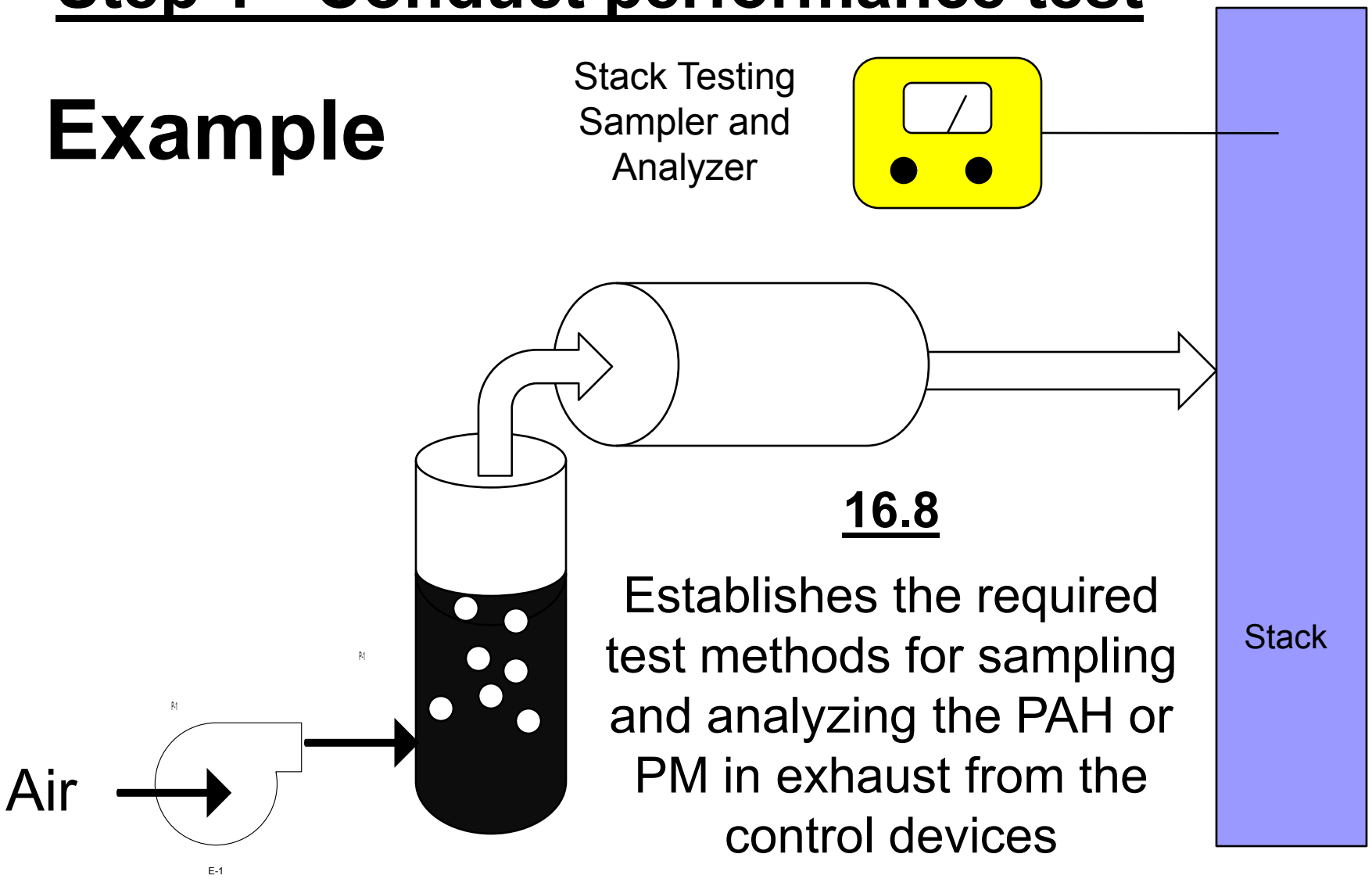


16.6.1 and 16.6.9.1.7

Combustion zone temperature data collected during performance test will be used to set future operating limitations

Step 1 - Conduct performance test

Example



16.8

Establishes the required test methods for sampling and analyzing the PAH or PM in exhaust from the control devices

How to demonstrate initial compliance

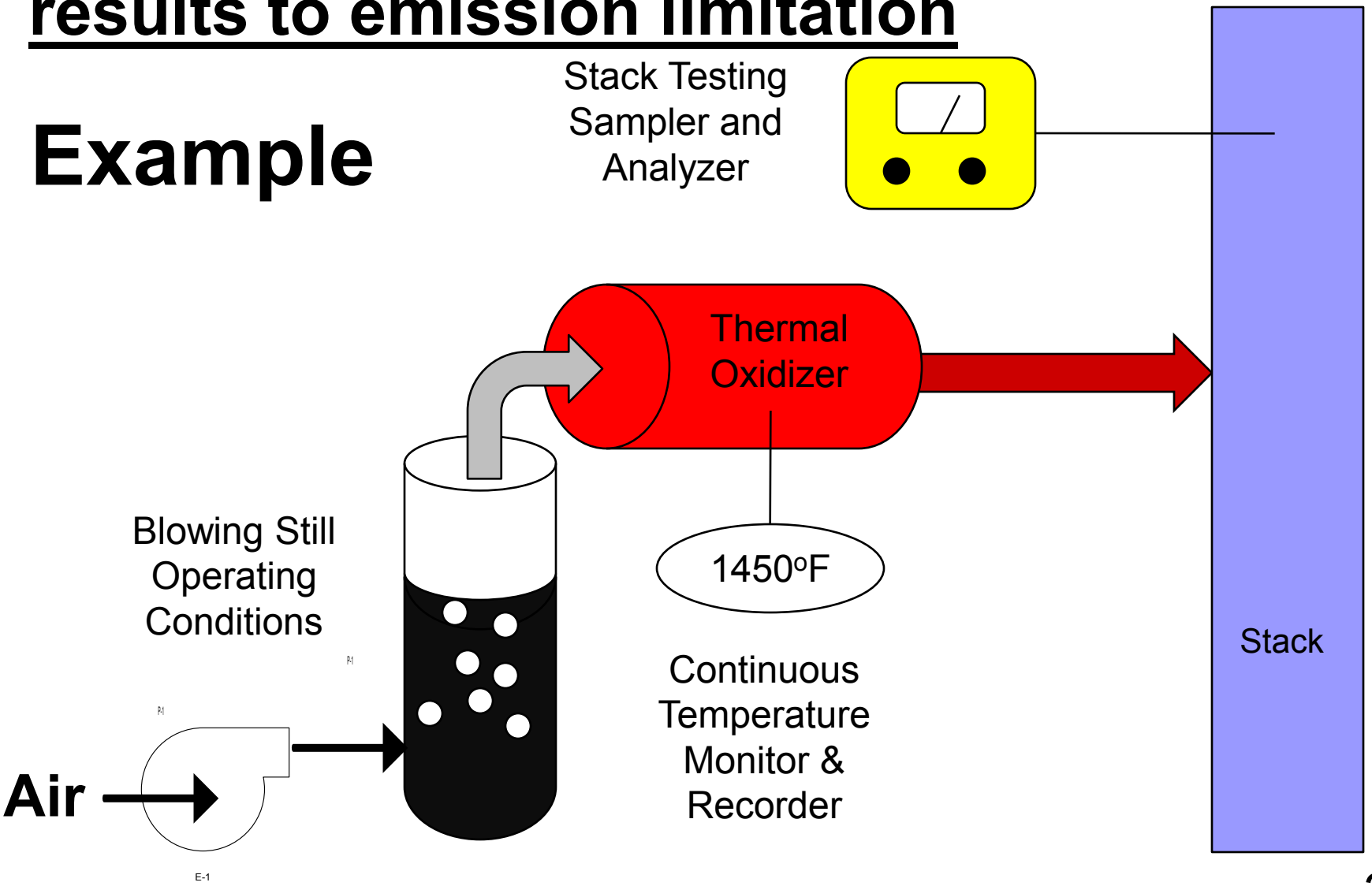
- **Step 2** - Compare performance test (PT) emission results to emission limitation
  - Calculate the PT emissions using **16.5.8.3**
  - If PT emissions results ≤ emission limitation

  - **Initial compliance is demonstrated**

  - If not, it is back to the drawing board

Step 2 - Compare performance test (PT) results to emission limitation

Example



Step 2 - Compare performance test (PT) results to emission limitation

Example

Initial Compliance Demonstration Calculation

16.5.8.3.1

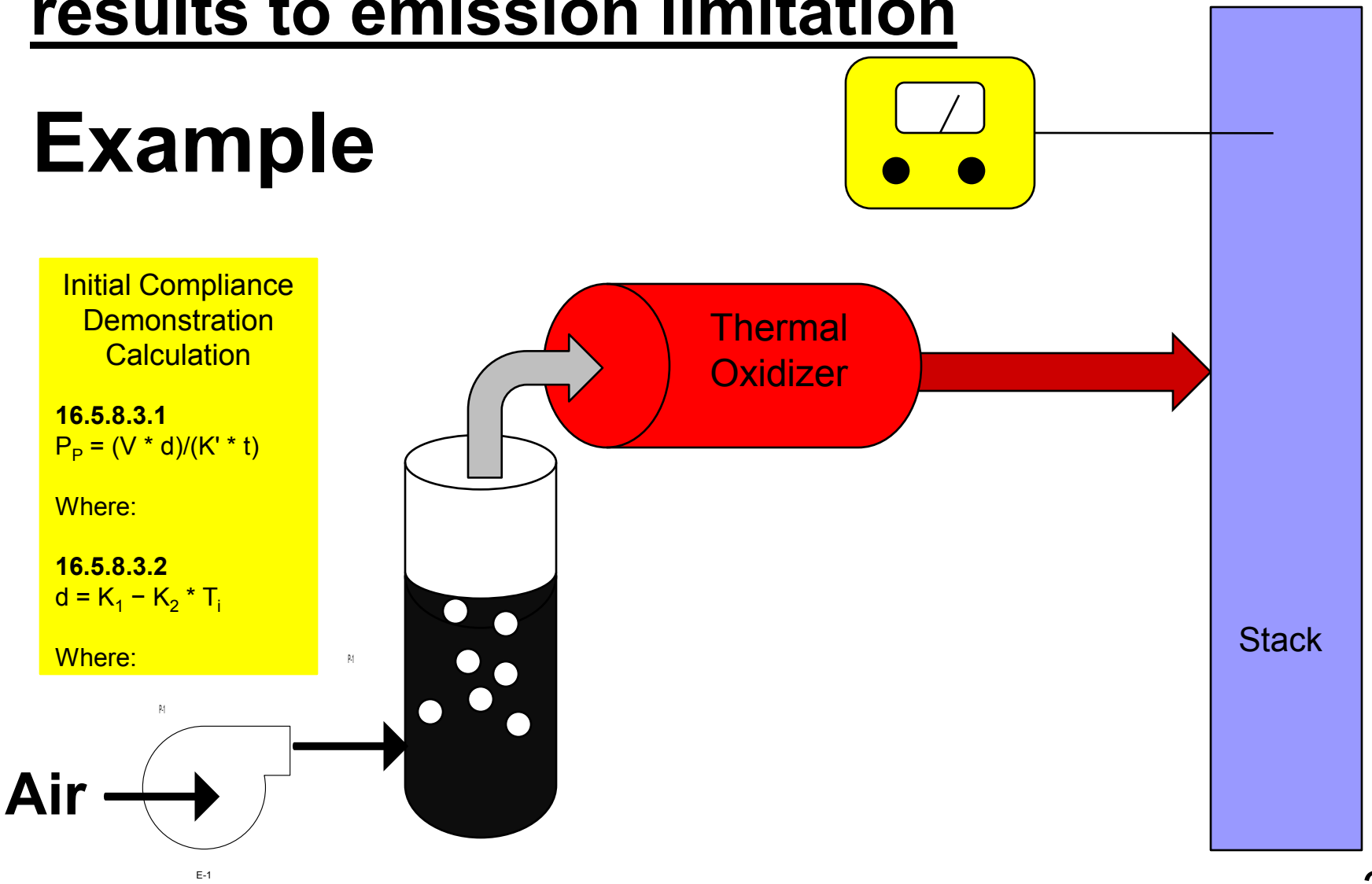
$P_P = (V * d)/(K' * t)$

Where:

16.5.8.3.2

$d = K_1 - K_2 * T_i$

Where:



- **How do sources demonstrate compliance ?**
  - **Initial demonstration**
  - **Continuous or ongoing demonstration**

How to demonstrate ongoing compliance

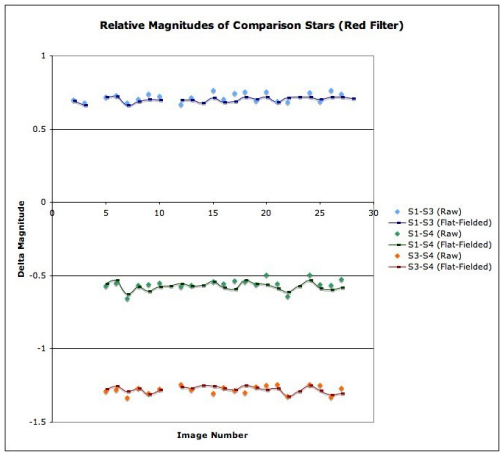
- **Step 1** – Establish the control system operating parameter value using performance test data
  - Thermal oxidizer – Combustion zone temperature
  - High efficiency filter – Inlet gas temperature and pressure drop or leak detection system
  - Electrostatic precipitator – Voltage or instrumentation/alarms

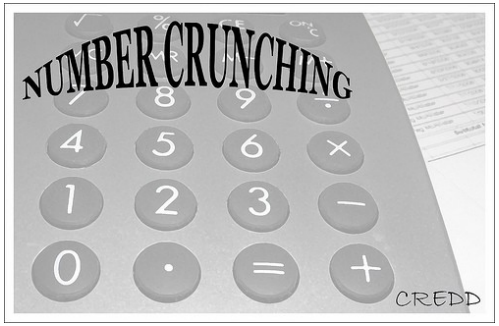
How to demonstrate ongoing compliance

- **Step 2** – Measure and record the control system operating parameter value

How to demonstrate ongoing compliance

- **Step** 3 – Reduce the monitoring data by calculating the “3 hour average”
  - Minimum monitoring cycle of 15 minutes
  - Valid data from at least 3 of 4 cycles to have a valid hour
  - Valid data from at least 2 of 3 hours to have a valid 3-hour average





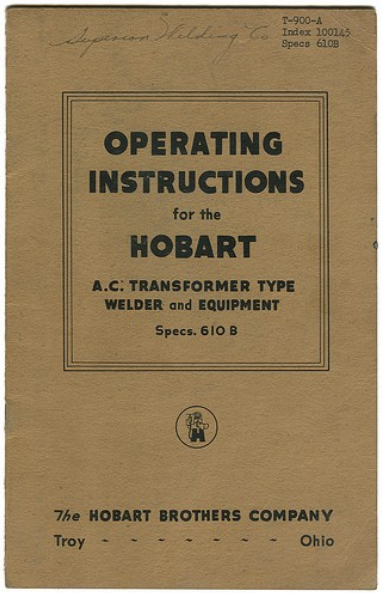
How to demonstrate ongoing compliance

- **Step 4** – Demonstrate continuous compliance by maintaining the “3 hour average” control system parameter in the “compliance zone”

- **What are the other operating and maintenance (O&M) requirements?**

What are the other O&M requirements?

- Develop & implement a startup, shutdown & malfunction (SSM) plan
  - Operating plans and instructions
    - Compliant operating parameters
    - Corrective actions
  - Control device specifications
  - CPMS specifications
  - Inspection schedules
  - Maintenance schedules



What are the other O&M requirements?

- Develop & implement a site-specific monitoring plan that defines . . .
  - Representative monitoring locations
  - Performance & equipment specifications for the CPMS
  - Proper CPMS calibration procedures
  - Normal O&M procedures of the CPMS
  - Normal data quality assurance procedures
  - Normal recordkeeping & reporting procedures

What are the other O&M requirements?

- The SSM Plan and site-specific monitoring plan can include many existing manuals, checklists, and other process documentation
  - Up-to-date operating instructions
  - Operator's checklists
  - Control device manufacturer's information
  - Maintenance schedules and procedures
  - Site-specific plan monitoring documentation

Annual Reports

Notifications

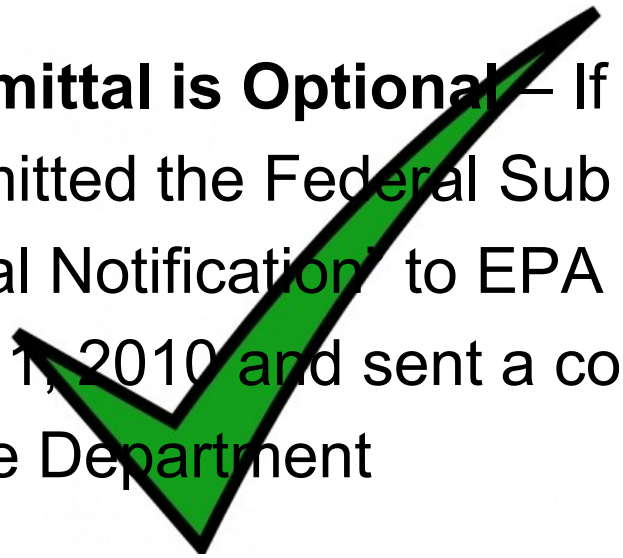
What are the paperwork requirements?

Record Keeping

- **What are the notification requirements?**
  - **Initial notification**
  - **Performance test notification**
  - **Notification of compliance status**
  - **Others (see 16.9)**

Initial Notification

- **Submit** the “Initial Notification” no later than November 11, 2010
- **Submittal** must contain the information listed in **3.9.2.2** of Section 3
- **Submittal is Optional** – If the owner submitted the Federal Sub 7A “Initial Notification” to EPA by April 1, 2010 and sent a copy to the Department



Initial Notification

The owner or operator of an existing affected source shall submit an initial notification not later than November 11, 2010 in accordance with 3.9.2.2 of this regulation.

The owner or operator of a new or reconstructed affected source shall submit an initial notification not later than November 11, 2010 or 120 calendar days after startup, whichever is later, in accordance with 3.9.2.4 and 3.9.2.5 of this regulation.

Notification of Performance Test

- **Submit** the "Notification of Intent to Conduct a Performance Test" no later than 60 days prior to testing
- **Submittal** must contain the information listed in **3.7.2.1** and **3.9.5** of Section 3
- **Sources should expect** the Department to - - -
  - Request and review the site-specific performance test plan
  - Issue an approval or disapproval of the test plan in timely manner
  - Have an observer present during the performance test

Notification of Performance Test

The owner or operator of an affected source shall submit to the Department a notification of the owner or operator's intention to conduct a performance test at least 60 calendar days before the performance test is initially scheduled to begin .

Notification of Compliance Status (NOCS)

- **Submit** the “Notification of Compliance Status” no later than 60 day following completion of the performance test
- **Submittal** must contain the information listed in **3.9.8.2** of Section 3
- **Submittal** must also include the performance test results

NOCS

The owner or operator of an affected source shall submit a notification of compliance status in accordance with 3.9.8.2 of this regulation. The owner or operator shall submit the notification of compliance status, including the performance test results, before the close of business on the 60th calendar day following the completion of the performance test in accordance with 3.10.4.2 of this regulation.

Where are the Notifications/Reports Sent?

Delaware DNREC
Director of Air Quality
Blue Hen Corporate Center
655 S Bay Road, Suite 5N
Dover, DE 19901

With a copy to

U. S. Environmental Protection Agency
Director, Air Protection Division
1650 Arch Street
Philadelphia, PA 19103

- **What are the reporting requirements?**

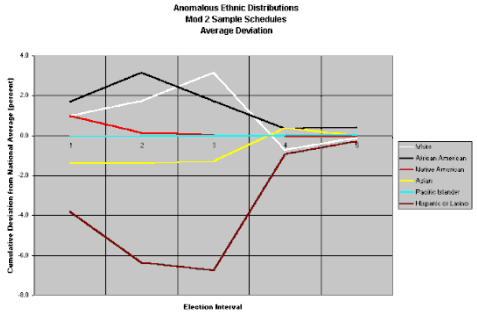
Semi-annual Compliance Report (SACR)

- "Semi-annual Compliance Reports" cover the periods
  - Jan. 1 to June 30
  - July 1 to Dec. 31
- Submit the SACR no later than 31 days following the end of the reporting period (i.e. 1/31 or 7/31)
- Submittal must contain the information listed in **16.10.2** of Section 16, if no deviations
- Submittal must contain the information listed in **16.10.3** of Section 16, if there were any deviations

SACR

If the owner or operator of an affected source is using a control device to comply with the emission limitations, the compliance report must identify the controlled units (*e.g.,* blowing stills, saturators, coating mixers, coaters). If the owner or operator is not using a control device to comply with the emission limitations, the compliance report must identify the site-specific process parameters monitored to determine compliance with the emission limitations.

What is a deviation?



Examples

- 3-hour average operating parameter does not conform to the compliant range of values established during the performance test
- Failure to follow the operational plan when the monitoring results are outside the compliant range of values
- Failure to perform or improperly perform routine maintenance to the control devices or CPMS in accordance with the manufacturer's recommendations
- Failure to conform with the site-specific monitoring plan

- **What are the recordkeeping requirements?**

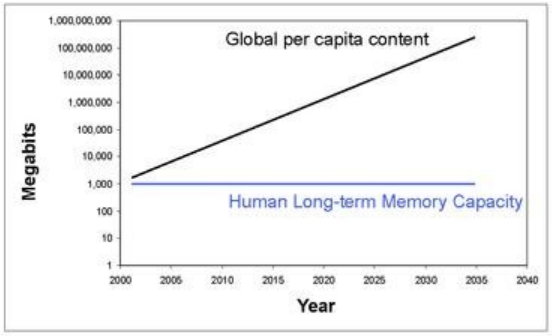
Recordkeeping

- Copies of all notification or report submittals and the records associated with their completion, including performance test results
- Documentation demonstrating that previously conducted performance test, if used, were a valid substitution
- Data establishing the compliant operating parameter value or range of operating parameter values
- Copies of the site-specific monitoring plan and SSM plan
- Records of operating data to show continuous compliance

Recordkeeping

- Records associated with each occurrence of a deviation
- Records associated with the corrective actions take when a deviation occurred
- And still other recordkeeping (See 16.11)

information overload?



- 600 Million GB of information/year → 36 Billion GB by 2009
- 93% is digital
- ~8 Billion public web pages already

- Records must be kept for **at least 5 years**

When must a facility be in compliance?

- Existing affected sources must be in compliance no later that December 2, 2010

- New affected sources must be in compliance not later than November 11, 2010 or upon initial startup, whichever is later

"I expect you all to be independent, innovative, critical thinkers who will do exactly as I say!"

What are the permitting requirements?

- Asphalt processing and asphalt roofing product manufacturing operations subject to Section 16 continue to be SUBJECT to permitting requirements under 7 **DE Admin Code** 1102

- Asphalt processing and asphalt roofing product manufacturing operations subject to Section 16 are exempt from Title V permitting requirements, **IF** the source is not otherwise required to obtain a Title V permit under 3.1 of 7 **DE Admin Code** 1130

Compliance Assistance Tools Available

- Initial notification
- Notification of compliance status
- Semi-annual compliance reports

FORMS With Instructions

www.awm.delaware.gov/Info/Regs/Pages/1138Section16.aspx

Expected Path Forward

- Publish proposed regulation in Delaware Register of Regulation – September 1, 2010
- Public hearing – NCC – September 22, 2010
- Publish final regulation in Delaware Register of Regulation – November 1, 2010
- Regulation effective date – November 11, 2010

For More Information on Section 16

- Contact Jim Snead
  - (302) 323-4542
  - james.snead@state.de.us

For the latest information,
follow the ongoing development on
Section 16 Regulatory Web Page

www.awm.delaware.gov/Info/Regs/Pages/1138Section16.aspx